RECEIVED
CENTRAL FAX CENTER
DEC 07 2006

Doc Code: AP.PRE.REQ

PTO/SB/33 (07-05)
Approved for use through xx/xx/200x. OMB 0651-00xx
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)	
071469-0307699	

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on _____

Signature _____

Typed or printed name _____

Application Number	Filed
10/812,355	March 30, 2004

First Named Inventor: HONGYU YUE

Art Unit	Examiner
1765	CHEN, Kin Chan

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒ attorney or agent of record. Registration number 35,914

☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

Signature

Jeffrey D. Karceski
Typed or printed name

202.663.8403
Telephone number

December 7, 2006
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 1 forms are submitted.

Doc Code: AP.PRE.REQ

PTO/SB/33 (07-05)
Approved for use through xx/xx/200x. OMB 0651-00xx
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)	
071469-0307699	

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on _____

Signature _____

Typed or printed name _____

Application Number	Filed
10/812,355	March 30, 2004

First Named Inventor: HONGYU YUE

Art Unit	Examiner
1765	CHEN, Kin Chan

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒ attorney or agent of record. Registration number 35,914

☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

Signature

Jeffrey D. Karceski
Typed or printed name

202.663.8403
Telephone number

December 7, 2006
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 1 forms are submitted.

Attorney Docket: 071469-0307699
Client Reference: ES-040

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of:

Hongyu YUE

Confirmation Number: 4102

Application No.: 10/812,355

Group Art Unit: 1765

Filed: March 30, 2004

Examiner: CHEN, Kin Chan

Title: METHOD AND SYSTEM FOR ADJUSTING A CHEMICAL OXIDE REMOVAL PROCESS USING PARTIAL PRESSURE

December 7, 2006

ATTACHMENT SHEETS TO PRE-APPEAL BRIEF CONFERENCE REQUEST

Mail Stop AF
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Appellants hereby request that a panel of examiners formally review the legal and factual basis of the rejections in the above-identified application prior to the filing of an appeal brief. Appellants assert that the outstanding rejections (now on appeal by virtue of the concurrently filed Notice of Appeal) are clearly improper based both upon errors in facts and the omission of essential elements required to establish a prima facie rejection (i.e., the prior art references fail to disclose, teach or suggest all the recited claim features).

APPEALED REJECTION

Appellants are appealing the rejection of claims 1-5 and 7-13, which rejections are detailed below. Appellants respectfully points out that claims 14 and 15 have been withdrawn from further consideration at this time. Accordingly, claims 14 and 15 are not included in the instant appeal.

Claims 1-5 and 7-13 were rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over Tomoyasu et al. (U.S. Patent Application Publication No.

2004/0185583). Claims 1-3 and 7-13 also were rejected under 35 U.S.C. § 103(a) as being unpatentable over Natzle et al. (U.S. Patent Application Publication No. 2004/0097047) in view of Tomoyasu et al. or Newton et al. (U.S. Patent Application Publication No. 2004/0099377). Finally, the Examiner rejected claims 4 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Natzle et al. in view of Tomoyasu et al. or Newton et al. and further in view of Doris et al. (U.S. Patent Application Publication No. 2004/0241981).

ARGUMENTS FOR TRAVERSAL

The appealed rejections are improper for two reasons. First, the Examiner has not presented a *prima facie* case of obviousness with respect to the claims. Second, the references do not describe or suggest all of the features combined by the claims. Accordingly, Appellants respectfully traverse the rejections set forth by the Examiner. To simplify the discussion of the claims, Appellants respectfully present arguments in connection with independent claims 1 and 13. The arguments presented to the independent claims also apply to the dependent claims.

Before addressing the rejections, Appellants respectfully direct the Examiner's attention to M.P.E.P. § 2143, which states in relevant part: "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." Appellants also respectfully direct the Examiner's attention to M.P.E.P. § 2143.01 III, which states: "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." (Underlining emphasis in original.) M.P.E.P. § 2143.01 III further states: "Although a prior art device 'may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.'" Appellants respectfully submit that the references relied upon by the Examiner do not meet the requirements set forth above. At least for this reason, Appellants respectfully submit that a *prima facie* case of obviousness has not been made. Accordingly, Appellants respectfully request that the rejections be withdrawn.

With respect to claim 1, Tomoyasu et al. does not describe or suggest a method for achieving a target trim amount by performing a chemical oxide removal process using a process recipe that includes a first reactant, a second reactant, an inert gas, and a process pressure to acquire trim amount data as a function of a variable parameter while maintaining at least one constant parameter constant. In addition, there is nothing in Tomoyasu et al. that describes or suggests determining a relationship between the trim amount data and a variable parameter so that the relationship may be used for further processing. With respect to claim 13, Tomoyasu et al. does not describe or suggest a method for performing a chemical oxide removal process that includes determining a relationship between trim amount data and a partial pressure of a gas specie and an inert gas and using the relationship to determine a target value of the partial pressure of the gas specie and the inert gas. Simply, with respect to either claims 1 or 13, Tomoyasu et al. does not discuss the interrelationship between the various modeling parameters with sufficient particularity to lead one of ordinary skill in the art to arrive at the relationships recited by the claims in the instant application. It is this deficiency that leads Appellants to argue that the reference simply does not provide any suggestion to support the Examiner's conclusion that the claims are obvious.

Referring to paragraph [0074], Appellants respectfully note that Tomoyuasu et al. discusses trim rate and etch rate as a function of time. There is no discussion or suggestion of a first reactant, a second reactant, an inert gas, and a process pressure to acquire trim amount data as a function of a variable parameter while maintaining at least one constant parameter constant (claim 1). There is also no discussion of a relationship between trim amount data and a partial pressure of a gas specie and an inert gas, nor is there any discussion of using the relationship to determine a target value of the partial pressure of the gas specie and the inert gas (claim 13). Appellants caution that the mere discussion of different modeling techniques (Tomoyasu et al. at paragraph [0074]), even when coupled with a listing of gases such as NH_3, HF, H_2, O_2, CO, CO_2, Ar, He, etc., that can make up the process gas (Tomoyasu et al. at paragraph [0200]), cannot be said to lead those skilled in the art to the relationship(s) recited by the present claims without some additional discussion or suggestion. Appellants respectfully submit that the absence of any correlation between specific variables such as a first reactant, a second reactant, an inert gas, a process pressure, partial pressure of a gas specie, or partial pressure of an inert gas significantly undermines the rationale put forth by the Examiner to reject the claims.

Appellants respectfully submit that Tomoyasu et al. simply does not describe or suggest the features upon which the Examiner relies in order to fashion a rejection of the claims presented by the instant application. Accordingly, Appellants respectfully request that the the rejections over Tomoyasu et al. be withdrawn.

With respect to the rejection of claims 1-3 and 7-13 as obvious over Natzle et al. in view of Tomoyasu et al. or Newton et al., Appellants respectfully traverse the rejection. There is simply nothing in either Natzle et al. or Newton et al. that alters the conclusion put forth by Appellants in connection with Tomoyasu et al.

With respect to Natzle et al., Appellants respectfully direct the Examiner's attention to paragraph [0051], where the reference discusses the adjustment of the amount of HF and NH_3 to allow shaping of the curved silicon oxide 18. According to the reference, factors that influence the amount of oxide removed per unit time include the vapor pressure of the reactant at the temperature of the substrate 12, the amount of the reactant or the rate of the reactant admitted to the COR chamber 44, the pumping speed of pump 60, and the reaction rate between the adsorbed reactant film 20 and the reoxidized silicon oxide layer 18 to be etched, all of which can be regulated by a controller. (Natzle et al. at paragraph [0042].) However, the mere discussion of an adjustment of the amount of specific gases or a discussion of general factors that influence the removal of oxide per unit time, without any discussion of a specific interaction between the variables, cannot assist the Examiner in fashioning a rejection of the claims. The deficiency lies in the absence of any correlation between specific factors. Appellants respectfully submit that the rejection of the claims cannot be sustained because of this deficiency, among others.

Newton et al. discusses controlling a reaction temperature between HF and NH_3 or altering the stoichiometry of HF:NH_3 to control the thickness of the self-limiting etchable layer 50. (Newton et al. at paragraph [0050].) In paragraph [0033], Newton et al. states that HF may be provided to a fluid feed line 99 or that argon or N_2 gas may alternatively be provided. There does not appear to be any discussion, however, of a first reactant, a second reactant, an inert gas, and a process pressure to acquire trim amount data as a function of a variable parameter while maintaining at least one constant parameter constant (claim 1). There is also no discussion of a relationship between trim amount data and a partial pressure of a gas specie and an inert gas, nor is there any discussion of using the relationship to determine a target value of the partial pressure of the gas specie and the inert gas (claim 13).

YUE – 10/812,355
Client-Matter: 071469-0307699

This is the same deficiency noted above with respect to Tomoyasu et al. Accordingly, Appellants respectfully submit that the rejection involving Newton et al. must be withdrawn.

Doris et al. also does not assist the Examiner with a rejection of the claims because it suffers from the same deficiencies noted with respect to Tomoyasu et al. and Natzle et al. While Doris et al. describes heating the structure and rinsing the structure in water, it provides no discussion of a correlation between specific variables such as a first or second reactant, an inert gas, a process pressure, partial pressure of a gas specie, and partial pressure of an inert gas to support the Examiner's rejection of the claims.

The dependent claims recite additional features and are, therefore, allowable at least for the same reasons discussed above with respect to claims 1 and 13.

In view of the above amendments and remarks, Applicants respectfully submit that all the claims are allowable and that the entire application is in condition for allowance.

CONCLUSION

It is respectfully requested that the panel return a decision concurring with Applicant's position and eliminating the need to file an appeal brief because there are clear legal and/or factual deficiencies in the appealed rejections.

Respectfully submitted,

PILLSBURY WINTHROP
SHAW PITTMAN LLP

By: _____
Jeffrey D. Karceski
Reg. No.: 35,914
Tel. No.: 202.663.8403
Fax No.: 202.663.8007

Date: December 7, 2006
Pillsbury Winthrop Shaw Pittman LLP
P.O. Box 10500
McLean, VA 22102
(703) 770-7900